

PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor : REES, Frank L.
Serial No. : 10/722,648
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For : Gauss-Rees Parametric Ultrawideband System
Group Art Unit : 3662
Examiner : LOBO, IAN J

MS: Appeal
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR REHEARING PURSUANT TO Sec. 37 CFR 41.52

S I R:

Appellant respectfully requests a rehearing on the record to respond to an apparent error in the Decision, and further in view of the absence of "information" required by 35 U.S.C. Sec. 132, which is an appealable ground for review.

There is good cause for having not previously presented the argument set forth below, namely that Appellant could not respond to the Board Decision until it was rendered.

It is respectfully submitted that the Board erred making a finding that "Similarly, one of ordinary skill in the art would recognize that references dealing with analysis of one particular type of wave, such as a light wave, may be relevant to references dealing with analysis of other types of waves, such as an acoustic wave, despite the fact that those waves may behave differently in

particular medium, such as the ground...”

Mathematic relationships between wavelets and backscattering measurements may be associative in their nature, however, the physics behind how an electromagnetic or acoustic wave propagates through specific mediums is particular to the physical characteristics and properties of the material. Mathematically similar approaches may be useful when determining and/or calculating various information, however, the underlying properties and environment controls whether or not their use is appropriate.

Simply put, mere mathematical relationships cannot render obvious whether an acoustic wave or a light wave can provide identifying information regarding an object. It would be merely conclusory if any mathematical relationship can be identified, that the mechanics in the real world can reasonably predicted, let alone be used directly. For example, integration, differentiation, wavelets, FFTs, are all mathematical based operations useful in multiple technological environments, but their useful applications must be grounded in the underlying technology, bound in the physical world. The instant invention exists because the inventor determined how specific mathematics applies to the specific real-world use for identifying objects using a specific spectrum, acoustic waveforms, not light wave energy.

Light wave mechanics are particular to the propagation of various wavelengths of light waves through mediums within the electromagnetic spectrum. Acoustic wave mechanics are particular to the propagation of various frequencies of sound waves through mediums within the acoustic spectrum. Electromagnetic and acoustic spectrums are different and separate, and require conversion from one spectrum to the other before information can be made useful. Property of materials may include density, absorption or optical reflectivity or refraction, for example, which controls whether or not a particular spectrum can provide useful information when identifying an object.

Identifying objects using light wavelengths of the electromagnetic spectrum cannot propagate through rock, but can be used in free space or through fluids. Based on the Board's interpretation it would be obvious to perform subterranean measurements with a light wave.

Acoustic waves allow for propagation through materials that are not readily identifiable by light waves. For example to identify items within a container the light wave would need to be able to propagate through the walls of the container. Unless the walls are constructed of glass, a light wave spectrum will not behave as the acoustic waveform as recited in the claims, and therefore could not function to identify the object. Whereas acoustic waves as recited in the claims are used to identify objects that are not identifiable through the use of light waves, like in opaque containers. Moreover, acoustic waveforms perform identification of objects within both opaque and translucent or transparent materials, which is contrary the nature of light waves.

The Board has not relied on any evidence, nor provided any information required by Sec. 132, that a light wave can be used to identify an object that an acoustic waveform, as the recited in the claims can identify. Neither the Board nor the Examiner have provided any evidence as to how one could specifically use a light wave to perform the acoustic waveform based identification as recited in the claims. Nor has there been any evidence provided as to why it would be obvious to perform the same operation using light wave mechanics as Appellant's claimed invention. The rejection therefore remains "not understandable," while Applicant is entitled by Sec. 132 to this information.

The Board erred in not remanding the Appeal to the Examiner and requiring the Examiner to provide evidence and a rational as to how a light wave is analogous and functional to identify an object that is identifiable by an acoustic waveform, as recited in the claims. Appellant continues to proffer that the Examiner has not complied with 1.104 nor 132. Further, 132 is appealable, and Applicant is entitled to the information.

APPLICANT CLAIMS SMALL ENTITY STATUS. The Commissioner is hereby authorized to charge any fees associated with the above-identified patent application or credit any overcharges to Deposit Account No. 50-0235.

Please direct all correspondence to the undersigned at the address given below.

Respectfully submitted,



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